

CLAIMS

1. A modulation apparatus comprising:

a modulator that modulates a baseband signal and generates a modulated signal; and

5 a compensator that beforehand compensates a baseband signal prior to modulation for a phase distortion between the baseband signal prior to modulation in the modulator and a modulation-processed baseband signal subjected to modulation in the modulator, based on a phase variation
10 amount between adjacent data of the baseband signal and a predetermined constant.

2. The modulation apparatus according to claim 1, wherein the compensator transforms the phase variation
15 amount into a frequency variation amount at predetermined time, and beforehand compensates the baseband signal prior to modulation for a phase distortion between the a baseband signal prior to modulation in the modulator and the modulation-processed baseband signal subjected
20 to modulation in the modulator, based on the frequency variation amount and the constant.

3. The modulation apparatus according to claim 2, further comprising a storage that stores the constant
25 obtained by dividing the phase distortion by the frequency variation amount,

wherein the compensator obtains the phase distortion

by multiplying the frequency variation amount by the constant stored in the storage, while beforehand compensating the baseband signal prior to modulation for the obtained phase distortion.

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4. The modulation apparatus according to claim 2, further comprising a storage that has a table storing phase distortion selection information that associates the frequency variation amount with the constant,

10 wherein the compensator obtains the phase distortion by multiplying the constant selected by referring to the phase distortion selection information using the frequency variation amount by the frequency variation amount, while beforehand compensating the baseband signal
15 prior to modulation for the obtained phase distortion.

5. The modulation apparatus according to claim 2, further comprising: a demodulator that demodulates the baseband signal modulated by the modulator and generates
20 the modulation-processed baseband signal;

 wherein the compensator obtains the constant by dividing a phase distortion between the baseband signal prior to modulation and the modulation-processed baseband signal demodulated in the demodulator by the phase
25 variation amount, while beforehand compensating the baseband signal prior to modulation for the phase distortion obtained by multiplying the obtained constant

by the frequency variation amount.

6. The modulation apparatus according to claim 5,
wherein the demodulator demodulates the modulated
5 baseband signal and generates the modulation-processed
baseband signal, while demodulating a received signal.

7. The modulation apparatus according to claim 1,
further comprising:

10 a phase comparator that obtains a phase distortion
between a phase of the modulation-processed baseband
signal and a phase of a reference signal;

a power control oscillator that generates as a
modulated output signal a signal an oscillation frequency
15 determined by a control signal that is a signal indicating
the phase distortion obtained in the phase comparator;
and

a frequency converter that converts a frequency of
the modulated output signal generated in the voltage
20 control oscillator into a frequency of a signal as a
reference,

wherein the modulator modulates the
modulation-processed baseband signal subjected to
frequency-conversion in the frequency converter using
25 the baseband signal prior to modulation compensated in
the compensator, and thereby generates the modulated
signal.

8. The modulation apparatus according to claim 1, wherein the modulator modulates a carrier signal using the baseband signal prior to modulation compensated in
5 the compensator, and thereby generates the modulated signal.

9. The modulation apparatus according to claim 1, further comprising a power amplifier that amplifies the
10 modulated signal to output as a signal to transmit from an antenna while controlling an amplitude of the modulated signal so that power is a target value.

10. A communication apparatus having a modulation
15 apparatus, wherein the modulation apparatus comprises:

a modulator that modulates a baseband signal and generates a modulated signal; and

a compensator that beforehand compensates a baseband
signal prior to modulation for a phase distortion between
20 the baseband signal prior to modulation in the modulator and a modulation-processed baseband signal subjected to modulation in the modulator, based on a phase variation amount between adjacent data of the baseband signal and a predetermined constant.

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11. A modulation method comprising: modulating a baseband signal and generating a modulated signal;

obtaining a phase distortion between a non-modulated
baseband signal that is a baseband signal prior to
modulation and a modulation-processed baseband signal
that is a baseband signal subjected to modulation by
5 multiplying a phase variation amount between adjacent
data of the baseband signal by a stored predetermined
constant; and

beforehand compensating the baseband signal prior
to modulation for the obtained phase distortion.